[redacted]9311-68 25X1
Copy 8 of 13

22 OCT 1968

MEMORANDUM FOR: Director, CIA Reconnaissance Programs

SUBJECT : Program Progress Report

Forwarded herewith are Program Progress Reports (5 copies each) for OXCART and IDEALIST for the period 1 July 1968 - 30 September 1968.

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DONALD H. ROSS
Brigadier General, USAF
Director of Special Activities

Attachment:
As stated

GROUP 1
Excluded from automatic downgrading and declassification

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SAS/O/OSA/ [redacted] (11 Oct. 68)

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ATTACHMENT TO
[redacted]6521-68
TAB A, Section 1

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OXCART

DEVELOPMENT SUMMARY AND PROGRESS

(1 July 1968 - 30 September 1968)

I. GENERAL

Due to SCOPE COTTON Decision 20 (Phase-out OXCART effective 30 June 1968), OXCART development actions have been discontinued. Distribution and storage of OXCART assets is being completed through project SCOPE COTTON.

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TAB A, Section 2

OXCART

OPERATIONAL SUMMARY AND PROGRESS

1 July 1968 - 30 September 1968

I. GENERAL

Due to SCOPE COTTON Decision 20 (Phase out OXCART effective 30 June 1968), OXCART operations have been discontinued.

II. PILOT AND A-12 AIRCRAFT LOCATIONS

(As of 30 September 1968)

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	U.S. [redacted]	Palmdale, California (storage)
Pilots	0	--
A-12 Aircraft	--	8*

*Includes one trainer (#124), two flight test (#121 and #122) and five operational aircraft (#127, #128, #130, #131, #132).

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ATTACHMENT TO
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TAB B, Section 1

IDEALIST

DEVELOPMENT SUMMARY AND PROGRESS

(1 July 1968 - 30 September 1968)

I. AIRFRAME

A. A U-2R technical meeting was held at LAC, Burbank, to review the status of significant problems affecting the U-2R progress as well as the status of the aircraft performance as affected by excessive weight and drag and engine thrust deficiencies. A detailed report (IDEA 0746-68) has been written summarizing the significant results of this meeting.

B. U-2R FLIGHT TEST AND OPERATIONAL TRAINING SUMMARY (THRU 30 SEPTEMBER 1968)

	J.A.S FLTS	TIME J.A.S	TOTAL FLTS	TOTAL TIME
1 - 051	14	43.5	82	264.4
2 - 052	17	65.1	47	174.1
3 - 053	22	80.2	58	174.8
4 - 054	27	75.8	48	149.0
5 - 055	19	64.1	33	99.6
6 - 056	8	14.1	21	47.1
7 - 057	15	51.3	15	51.3
8 - 058	16	55.9	16	55.9
9 - 059	6	11.0	6	11.0
TOTAL	144	461.0	326	1027.2

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II. PROPULSION

Operation of a J75 engine on the East Hartford test stand has resulted in the development of an apparent fix to the engine oil pressure fluctuation problem. This involved the installation of a specially designed orifice in the pressure regulation sense line between the main oil pump and the boost pump. It was apparently a pressure interaction between the two pumps which acted through the sense line to cause the oil pressure fluctuations. Two of these orifices have been utilized in installed engines on a trial basis. More than 56 flight hours have been accumulated to date with no report of oil pressure fluctuations.

III. PAYLOAD

Flight verification tests were conducted during this period with A-1 and A-2 camera systems as well as with the H camera, B-1 and B-2 cameras, DELTA III and T-35 tracker. The IRIS I COMPASS ARROW, rotating optical bar camera, borrowed from USAF assets has been flight demonstrated in the U-2R. An "H" hatch was used to confirm compatibility requirements and design characteristics for the IRIS II configuration scheduled for delivery in December 1968. Camera production is on schedule. Flight tests conducted under high humidity conditions at McCoy AFB, Florida with a B-2 configuration yielded satisfactory results.

IV. LIFE SUPPORT

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A. Training - [redacted] received partial pressure suit/altitude chamber indoctrinations at the Castle AFB, California physiological training unit during the period 15-18 July 1968.

B. U-2R Life Support System

1. S-1010 PPA Fittings/Altitude Chamber

Indoctrinations - The following individuals were fitted and given indoctrination:

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[redacted]

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2. Parasail Evaluations

The S-1010 PPA/U-2R Seat Kit were evaluated with respect to their protective and safety features related to parachute descent, water entry, parachute canopy release and suit flotation during parasail evaluations conducted at Lake Mead, Nevada, during 8-10 July 1968. Results were very satisfactory.

3. U-2R Air Conditioning

A meeting was held on 6 August 1968 to review and discuss the U-2R air conditioning system deficiencies, modifications and test data. The deficiencies have apparently been resolved by the latest modifications, no further problems are anticipated.

4. Underwater Escape Evaluations

An evaluation program was conducted at Miramar NAS, San Diego, California, on 7-8 August 1968 to evaluate and develop procedures for emergency egress from a submerged U-2R cockpit, to evaluate the S-1010 PPA and U-2R seat kit under submerged conditions, and to evaluate the training value of such an exercise for project pilots involved in U-2R carrier operations. Specific escape procedures were developed and U-2R life support equipment proved to provide excellent protection under such emergency conditions. A training program will be established for all project pilots.

5. S-1010 PPA Refit and Evaluation Program

A series of problems regarding comfort and possible safety of the S-1010 PPA were noted during July and August 1968 by the Detachment G commander. A meeting was held at Detachment G on 5 August 1968 to outline a course of action to resolve such problems. A suit refitting effort was undertaken by Detachment G life support personnel,

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followed by cockpit and/or inflight evaluations. These efforts did not yield completely satisfactory results, and additional efforts and evaluations were conducted during the period 26-30 August 1968. All project pilots,

25X1 [redacted] now have completely safe assemblies and the majority of comfort problems have been resolved.

g. Developmental Efforts

The David Clark Company is presently working on the development of several modifications/changes to the S-1010 PPA to improve comfort, reliability, safety and ease of maintenance. Included are the following:

1. Incorporation of a full-size sunshade.

2. Improved helmet microphone mounting.

3. New antisuffocation valve which can be manually closed.

4. Methods for reducing lateral torque of neck ring subassembly.

5. Insulation pads for suit vent system for protection from frostbite due to aircraft air conditioning modifications.

V. GENERAL RESEARCH AND DEVELOPMENT

A. Drag Reduction Program

1. The wind tunnel program has demonstrated clear gains in drag reduction and the necessity for an appropriate analytical model to provide specific design criteria for the diffusers to obtain further drag reductions. Development of the analytical model is underway.

2. The DD/S&T, D/NRO, Dr. Jones and Dr. Allen of NASA, Ames, and LAC personnel were all

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briefed on the drag reduction program. NASA will schedule wind tunnel test time during the next quarter to test a larger scale model at higher Reynolds numbers and Mach numbers.

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C. PROPULSION

1. High Altitude Engine Relight Program

A program has been initiated with Pratt & Whitney and Lockheed to develop a system for improving the altitude relight envelope of the J75-P-13B engine in the U-2R aircraft through use of oxygen injection. The program at Pratt & Whitney is progressing well. All hardware is to be delivered by early October with engine endurance testing beginning two weeks after delivery of hardware. A fuel control has been modified by Hamilton Standard and bench tests began in September. Some delay may occur in the scheduled date for delivery of hardware to Lockheed due to an aircraft interference problem with some of the oxygen supply lines. The date of delivery of hardware to Lockheed will be revised when the interference problem has been resolved. The target date for resolution of this interference problem has been set for 1 October 1968.

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D. HAZE ATTENUATION STUDY

During September, four flight tests were conducted at Albuquerque, New Mexico with S0121, S0230, and 3400 films using various combinations of polarizing and haze filters. Results of these tests will be analyzed by NPIC to determine the value of the polarizing filter for operational use.

VI. MISCELLANEOUS

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B. U-2R Problem Areas

Late in the quarter, problems were encountered in the U-2R development effort of the Constant Speed Drive Alternator, the Alternating Current Generator and the

25X1 [redacted] At the time of this report, these problem areas are being evaluated, and will be corrected as rapidly as possible.

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TAB B, Section 2

IDEALIST

OPERATIONAL SUMMARY AND STATUS

(1 July 1968 - 30 September 1968)

I. OVERFLIGHT SUMMARY

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II. GENERAL

A. SCOPE CROSS

A deployment exercise to McCoy AFB, Florida was conducted by Detachment "G" during the period 16 September 1968 through 27 September 1968. The purpose of the exercise was to evaluate and validate the U-2R (test vehicle: Article 058) while operating in an environment of high-humidity. Minor problem areas associated with operations conducted in high-humidity conditions were noted, and appropriate corrective actions have been taken to eliminate the operating problems. Overall results of the tests conducted by the U-2R during this exercise are satisfactory and it can be concluded that the U-2R 25X1 [redacted] is capable of satisfactory operations in a high-humidity environment.

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TAB B, Section 2

III. U-2R DELIVERY STATUS (ALL DATES 1968)

DELIVERY	ROLLOUT	FIRST FLIGHT	ACCEPTED
Aircraft 3	12 January	17 February	29 April
Aircraft 4	13 February	29 March	12 June
Aircraft 5	27 March	8 May	29 May
Aircraft 6	29 April	18 May	11 June
Aircraft 7	17 July	29 July	29 August
Aircraft 8	5 August	20 August	5 September
Aircraft 9	21 August	9 September	21 September

IV PILOT AND AIRCRAFT STATUS (AS OF 30 SEPTEMBER 1968)

DETACHMENT "G" (EDWARDS AFB)

25X1 Pilots [redacted]

Aircraft 2 U-2G
6 U-2R

25X1 DETACHMENT "H" [redacted]

Pilots [redacted] 25X1

Aircraft 1 U-2C
1 U-2G

25X1

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